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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,070	11/17/2003	Dietmar Wenzel	L&L-10259	3305

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EXAMINER	
ODOM, CURTIS B	
ART UNIT	PAPER NUMBER
2611	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/715,070	WENZEL ET AL.	
	Examiner	Art Unit	
	Curtis B. Odom	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4-8, 14, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Samuels et al. (GB 2349552A).

Regarding claim 1, Samuels discloses a device (Fig. 2) for monitoring an output power of a radio, the device comprising:

at least one radio-frequency module (Fig. 2, block 25, page 8, lines 4-11) for converting baseband I and Q transmission signals having scaled signal amplitudes (as described on page 6, lines 6-28) to radio-frequency signals and for amplifying the radio-frequency signals in a variable gain amplifier (see Fig. 2, block 24, page 9, lines 15-24) the radio-frequency module including a variable gain amplifier having a controllable gain (see page 9, lines 15-24);

a scaling unit (see Fig. 2, block 21, page 6, lines 6-28) for varying the signal magnitudes of the baseband I and Q transmission signals based on control signals output from a controller (see Fig. 2, block 9); and

a controller (Fig. 2, block 9) for synchronizing the dynamic range of the circuit (see page 11, lines 1-4) by synchronizing the varying of the signal amplitudes (see page 6, lines 6-28) of

the baseband transmission signals by the scaling unit in the order of 12dBs with a variation of the gain of the power amplifier (see column 9, lines 19-24) in the order of 45 to 50dBs when raising or reducing an output power before transmitting a burst so that the dynamic range of the circuit is between 57 to 62dBs (see column 11, lines 1-4).

Regarding claim 4, Samuels discloses the scaling is performed in the QPSK baseband module which produces I and Q baseband signals (see page 6, lines 6-28).

Regarding claim 5, Samuels discloses the baseband transmission signals include an in-phase signal and a quadrature signal (see page 6, lines 6-28).

Regarding claim 6, Samuels discloses a power control device (Fig. 2, block 9) for controlling the gain of the power amplifier (see page 9, lines 18-24).

Regarding claim 7, Samuels discloses the power control device (controller) is supplied with a nominal (required) value of a current transmission power (see page 10, lines 19-24);and

the power control device readjusts the gain (page 9, lines 15-24) of the amplifier such that an actual output transmission power in each case corresponds to the nominal (required) value of the transmission power being supplied to the power control device as described on page 10, lines 19-24).

Regarding claim 8, Samuels discloses determining an actual current transmission power (see page 10, lines 19-24) and evaluating a variation (fraction) of the transmission power by evaluating the ratio of reference signal power to existing signal power (see page 10, liens 24-28).

Regarding claim 14, Samuels discloses a mobile radio station (Fig. 2, page 1, lines 9-13) for monitoring an output power of a radio, the device comprising:

at least one radio-frequency module (Fig. 2, block 25, page 8, lines 4-11) for converting baseband I and Q transmission signals having scaled signal amplitudes (as described on page 6, lines 6-28) to radio-frequency signals and for amplifying the radio-frequency signals in a variable gain amplifier (see Fig. 2, block 24, page 9, lines 15-24) the radio-frequency module including a variable gain amplifier having a controllable gain (see page 9, lines 15-24);

a scaling unit (see Fig. 2, block 21, page 6, lines 6-28) for varying the signal magnitudes of the baseband I and Q transmission signals based on control signals output from a controller (see Fig. 2, block 9); and

a controller (Fig. 2, block 9) for synchronizing the dynamic range of the circuit (see page 11, lines 1-4) by synchronizing the varying of the signal amplitudes (see page 6, lines 6-28) of the baseband transmission signals by the scaling unit in the order of 12dBs with a variation of the gain of the power amplifier (see column 9, lines 19-24) in the order of 45 to 50dBs when raising or reducing an output power before transmitting a burst so that the dynamic range of the circuit is between 57 to 62dBs (see column 11, lines 1-4).

Regarding claim 15, Samuels discloses the data signal (burst) is transmitted with the GSM standard (see page 1, lines 22-26).

3. Claims 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kosugi et al. (U. S. Patent No. 5, 369, 789).

Regarding claim 16, Kosugi et al. discloses a method for raising a transmission power of a radio having at least one radio-frequency module (see Fig. 1, block 2, column 1, lines 16-19) for converting baseband transmission signals (see column 2, lines 42-46) to QPSK radio-frequency band signals and a power amplifier (see Fig. 1, block 3) with a controllable gain (see

column 2, lines 61-63) for amplifying the QSPK radio-frequency band signals, the method which comprises, prior to transmitting a data burst:

applying a switching-on ramp up to a gain control device (see column 3, lines 16-25) to raise the gain of the power amplifier using a ramp-up signal (see column 3, lines 65-column 4, line 14) and thereby increase a transmission power, wherein the gain and transmission power of the amplifier are increased by increasing the ramped-up voltage (see column 4, lines 21-33 and column 5, lines 59-65); and

starting at a defined time (to-t1) on the switching-on ramp up, continuously increasing amplitudes of the baseband transmission signals by increasing amplification (see column 5, lines 59-65) from a minimum value to a predetermined level (see Fig. 2, t0-t1, column 5, lne 66-column 6, lines 11) while the switching-on ramp is simultaneously increasing smoothly.

Regarding claim 17, Kosugi et al. discloses applying the starting step in a mobile (cellular) radio (see column 1, lines 9-14).

Regarding claim 18, Kosugi et al. discloses a method for reducing a transmission power of a radio having at least one radio-frequency module (see Fig. 1, block 2, column 1, lines 16-19) for converting baseband transmission signals (see column 2, lines 42-46) to QSPK radio-frequency band signals and a power amplifier (see Fig. 1, block 3) with a controllable gain (see column 2, lines 61-63) for amplifying the QSPK radio-frequency band signals, the method which comprises, prior to transmitting a data burst:

applying a switching-off ramp down to a gain control device (Fig. 1, element 31) using a burst control signal (see column 6, lines 26-36) to decrease the gain of the power amplifier and thereby decrease a transmission power, wherein the gain of the amplifier and transmission power

of the amplifier are decreased by decreasing the ramped-down (burst control) signal (see column 6, lines 26-36, wherein the voltages (burst control signals) applied to the gain control device control the gain (see column 4, lines 22-31 and see column 8, lines 1-11)); and

starting at a defined time (t2-t3, see column 6, lines 31-36) on the switching-off ramp down, continuously reducing amplitudes of the baseband transmission signals by reducing the amplification rate (see column 6, lines 26-36) from a maximum value to a minimum value (as shown in Fig. 2, between t2 and t3) while the switching-off ramp down is smoothly decreasing.

Regarding claim 19, Kosugi et al. discloses applying the starting step in a mobile (cellular) radio (see column 1, lines 9-14).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samuels et al. (GB 2349552A) in view of McGowan (US 2001/0000456).

Regarding claims 2 and 3, Samuels discloses scaling the magnitudes (amplitudes) of both the I and Q baseband signals (see page 6, lines 6-28), including a digital/analog converter (see Fig. 1, block 6) for converting both the I and Q baseband signals (see page 7, lines 1-7), wherein the scaling (see Fig. 1, block 21) takes place upstream from the digital/analog converter (see Fig.

1, block 6). Samuels does not disclose the scaling of the amplitudes takes place by multiplying the I and Q baseband signals.

However, McGowan discloses scaling I and Q baseband signals with instantaneous gain (amplitude) values using multipliers (see Fig. 2, block 212, section 0040) to reduce power peaks and create a baseband signal with an average output power consistent with the average input power. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the scaling of the magnitudes of Samuels using multipliers as disclosed by McGowan since McGowan states the scaling fully compensates for reduction in average power of the baseband signals (see section 0040, page 4).

6. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samuels et al. (GB 2349552A) in view of Kosugi et al. (U. S. Patent No. 5, 369, 789).

Regarding claim 9, Samuels discloses the power control device (controller) is supplied with a nominal (required) value of a current transmission power (see page 10, lines 19-24); and the power control device readjusts the gain (page 9, lines 15-24) of the amplifier such that an actual output transmission power in each case corresponds to the nominal (required) value of the transmission power being supplied to the power control device as described on page 10, lines 19-24). Samuels does not disclose a power ramp generator for producing continuous switching-on and switching-off ramps for a nominal value of a transmission power.

However, Kosugi et al. discloses a power ramp generator (see Fig. 1, block 10) for producing continuous switching-on up ramp patterns and switching-off down ramp patterns (see column 3, lines 16-25) which are used to control amplifier (transmission) power level (see column 5, lines 66-column 6, line 6 and column 6, lines 26-36) through a gain control device

(see Fig. 1, element 31). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the device of Samuels with the ramp generator to control transmission power as disclosed by Kosugi to produce a transmission output signal with smooth ramp-up/down characteristics without extraneous interference waves (see Kosugi, column 4, lines 58-61).

Regarding claim 10, Samuels discloses the scaling is performed in the QPSK baseband module which produces I and Q baseband signals (see page 6, lines 6-28). Samuels does not disclose the ramp generator is included in the baseband module.

However, Kosugi et al. discloses a power ramp generator (see Fig. 1, block 10) for producing continuous switching-on up ramp patterns and switching-off down ramp patterns (see column 3, lines 16-25) which are used to control amplifier (transmission) power level (see column 5, lines 66-column 6, line 6 and column 6, lines 26-36) through a gain control device (see Fig. 1, element 31). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the baseband module of Samuels with the ramp generator to control transmission power as disclosed by Kosugi to produce a transmission output signal with smooth ramp-up/down characteristics without extraneous interference waves (see Kosugi, column 4, lines 58-61).

7. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samuels et al. (GB 2349552A) in view of Schwent et al. (US 2002/0168025).

Regarding claims 11-13, Samuels does not disclose the scaling unit includes a memory for storing a sequence of rising or falling amplitude values; and the sequence of amplitude values produces a rising or falling profile for the signal amplitudes of the baseband transmission signals,

wherein the scaling unit is configured for obtaining trigger signals for initiating the rising or falling profile for the signal amplitudes of the baseband transmission signals, wherein during a switching-on ramp, the scaling unit obtains a trigger signal at a chosen time interval after a beginning of the switching-on ramp; and during a switching-off ramp, the scaling unit obtains a trigger signal at a chosen time interval after a beginning of the switching-off ramp.

However, Schwent discloses a scaling unit (see Fig. 7, block 712) including a table for storing ramping values (see section 0058) of rising and falling amplitudes as shown in Fig. 8; and the sequence of ramp values produces a rising (ramping up) or falling (see sections 0063-0065) patterns to adjust signal amplitudes of the baseband signal modulation (see section 0088), wherein the scaling is configured for obtaining a DMCS signal as a trigger signal (see section 0061) for initiating the ramping-up (rising) or ramping-down (falling) profile pattern to adjust the modulation signals (see sections 0061-0065), wherein during a switching-on ramp-up, the scaling unit obtains a trigger signal at a chosen time interval (RAMP_DLY) after a beginning of the switching-on ramp-up after EST_DLY (se section 0063); and during a switching-off ramp, the scaling unit obtains a trigger signal at a chosen time interval (RAMP_DN_DLY) after a beginning of the switching-off ramp after DIV_DLY (see Fig. 8, section 0065).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the scaling unit of Samuels with the scaling unit of Schwent et al. since Samuels discloses scaling the baseband signals can reduce the weight, size, and current consumption of transmitters (see column 3, lines 8-14).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Posti et al. (U. S. Patent No. 2001/0006888) discloses scaling modulating signals in synchronization with adjusting the gain of a power amplifier.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 571-272-3046. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Curtis Odom
January 5, 2007